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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 19569-2026

Replacing GB/T 19569-2004

Air conditioning units for clean operating rooms

洁净手术室用空气调节机组

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5.1 General Rules

5.1.1 The air conditioner shall conform to the requirements of this document and be manufactured according to the drawings and technical documents approved through the prescribed procedures (or as agreed by the user and the manufacturer). (Discussion) Manufacturing.

5.1.2 The assembly of all components of the air conditioner should be firm and reliable, and there should be no mutual friction or collision between the pipes and components.

5.1.3 The configuration of each functional section of the air conditioner should not only ensure the requirements for heat and humidity treatment of the air, but also prevent dust

accumulation and bacterial growth inside the air conditioner, ensuring... The delivered air meets hygiene requirements.

5.1.4 Air conditioners should be equipped with drain outlets, preferably located in the positive pressure section, and the drainage should be unobstructed, without overflow or leakage.

5.1.5 A coarse air filter with an efficiency rating of at least C4 should be used at the air inlet of the air conditioner; a filter with an efficiency rating of at least C4 should be used at the air outlet. This is a medium-efficiency or sub-high-efficiency air filter for the Z3 series. When using an antibacterial filter (which, in addition to meeting relevant filtration efficiency standards, also...), The same filtration efficiency is required when the filter effectively kills common bacteria attached to the filter media, but does not release chemical pollutants.

Note. Air filter grades are specified in GB/T 14295-2019.

5.1.6 The coarse air filter of the air conditioner should be installed at the fresh air inlet, and the medium-efficiency air filter should be installed in the positive pressure section. The fresh air conditioner should also have a coarse air filter installed at the outlet. A sub-high efficiency air filter was added to the air section.

5.1.7 The outlet of the centrifugal fan of the air conditioner should have a flexible connecting pipe, and the flexible connecting pipe should be smooth on both sides.

5.1.8 The relative humidity of the air outlet from the air conditioner shall not exceed 75%.

5.1.9 The antibacterial measures for air conditioners should at least meet the following requirements.

- a) Humidifiers or dehumidifying cooling coils should not be installed directly upstream of filters or silencers to prevent moisture from penetrating the air filters;
- b) The frame or support structure on the surface of any open lining material within the airflow of the air conditioner has sufficient strength, rigidity, and wear resistance to withstand [the load]. To prevent fibers from entering the airflow, the weight and pressure required during installation, operation, and maintenance must be controlled.
- c) Adhesives, sealants, and sealants in the airflow of the air conditioner must not cause microbial contamination.

5.1.10 Air conditioners that use compressor refrigeration should preferably use inverter compressors.

5.2 Materials

5.2.1 The thermal insulation and sound insulation materials used for the air conditioner unit casing should be non-toxic, non-corrosive, odorless, and not easily absorbent; the exposed parts of the materials and the casing itself should also be non-toxic. It should have

non-combustible or flame-retardant properties; if glass fiber material is used, there should be measures to prevent leakage.

5.2.2 The entire inner wall of the air conditioner should be smooth and not easily harbor bacteria. It is advisable to use materials that are not prone to bacterial growth.

5.2.3 If recyclable components are used in the air conditioner, the ease of component separation and recycling should be considered in the design.

5.2.4 For air conditioning components that can use renewable materials, renewable materials should be used.

5.2.5 Air conditioners should preferably be made of materials with waste disposal methods and whose disposal process has minimal environmental impact.

5.2.6 The content of hazardous substances in the hardware of the air conditioning control system shall comply with the provisions of GB/T 26572.

Note. Exceptions apply to applications exempted by government departments.

5.3 Components

5.3.1 All components of the air conditioner should be made of antibacterial materials, odorless, free of harmful substances, and should not release harmful substances. The structural design of the components... The design should prevent localized dust particle accumulation and facilitate manual and mechanical cleaning.

5.3.2 Air conditioner heat exchangers should not use finned fins, but rather fins that are less prone to dust accumulation.

5.3.3 For 100% fresh air type air conditioners, the average airflow velocity through the coil should not exceed

2.2 m/s; for recirculating air type air conditioners, the average airflow velocity through the coil should not exceed

2.2 m/s. The average velocity of the flow should not exceed

5.3.4 The condensate tray of the air conditioner should be made of corrosion-resistant material and be easy to clean.

5.3.5 When an air conditioner needs to be equipped with a humidifier, the humidifying medium used should meet hygiene requirements, and the humidifier itself should not easily breed bacteria during the humidification process. There should be no water droplets.

5.3.6 Electric heaters should be heaters that are not prone to dust accumulation, rust, or dust shedding, or other forms with similar properties.

5.3.7 For components such as fans and motors in air conditioning units that have

mandatory national energy efficiency requirements, energy efficiency ratings of level 2 or above should be selected. Products.

5.3.8 The air leakage of the valve plate of the air volume regulating valve should meet the requirements of the closed type air valve in JG/T 436.

5.3.9 The air filter material of the air conditioner should be non-toxic, odorless, non-absorbent, and antibacterial. The particulate matter filtration efficiency, resistance, and other parameters of the air filter should be considered. Dust holding capacity should meet the relevant requirements of GB/T 14295-2019; all levels of air filters should be disposable, and wooden filters are not permitted. For products of the same filtration class, air filters with low resistance, high efficiency, and high dust holding capacity should be selected.

5.3.10 The high-efficiency filters configured in air conditioners shall meet the relevant requirements of GB/T 13554.

5.4 Structure

5.4.1 The thermal insulation and soundproofing layer of the air conditioner enclosure should be firmly and tightly bonded to the wall panels, and the enclosure should have measures to prevent thermal bridging. The sound insulation performance of the enclosure should meet the following requirements. Design requirements.

5.4.2 The inspection doors of the air conditioner should be airtight, flexible, and safe.

5.4.3 Outdoor air conditioners should have rainproof measures.

5.4.4 When the water pipes connecting the air conditioner pass through the housing, they should be insulated and sealed.

5.4.5 The air conditioner casing should not exhibit permanent dents or dents after transportation, startup, operation, or shutdown.

5.4.6 Air conditioners should be equipped with drain outlets, and drainage should be unobstructed, without overflow or leakage.

5.4.7 Appropriate vibration control measures should be taken for the air conditioner's fan, and protective measures should be installed on the fan transmission components exposed to the outside of the air conditioner. Device.

5.4.8 The inspection door of the filter section should allow for easy removal of the filter and provide sufficient space for replacement.

5.4.9 Air conditioners may have test holes and test instrument interfaces provided when necessary, and safety lighting with a voltage not exceeding 36V may be provided.

5.4.10 Air coolers and air heaters of air conditioners shall be equipped with drainage and exhaust devices.